

## Test for Chloride Ion

1. Dissolve 3-5 mg of sample in 1 ml of 2M  $\text{H}_2\text{SO}_4$ . This will eliminate interference from non halides i.e.  $\text{CO}_3^{2-}$ ,  $\text{CN}^-$  and  $\text{S}^{2-}$  etc.
2. Add 10-15 mg of  $\text{K}_2\text{S}_2\text{O}_8$ . This oxidizes  $\text{Br}^-$  and  $\text{I}^-$  but not  $\text{Cl}^-$  to  $\text{Br}_2$  or  $\text{I}_2$ . A brown coloration indicates the presence of  $\text{I}_2$  or  $\text{Br}_2$ . This will eliminate interference from  $\text{I}^-$  and  $\text{Br}^-$ .
3. Heat to  $100^\circ \text{C}$ . for 5-10 minutes. This will drive off halides as gases  $\text{Br}_2$  and  $\text{I}_2$ .
4. Cool then add 2 Drops of .2M  $\text{AgNO}_3$ . A white precipitate indicates the presence of Chloride ( $\text{Cl}^-$ ).  $\text{AgF}$  is soluble in water.

### Reagents:

.2M $\text{AgNO}_3$	340mg/10mls
.2M $\text{KCl}$	150mg/10mls
.2M $\text{KBr}$	238mg/10mls
.2M $\text{KI}$	330mg/10mls
2M $\text{H}_2\text{SO}_4$	11mls/100mls